Rack-mounted DCS Signal Conditioners 18K-RACK

SIGNAL CONVERTER

Functions & Features

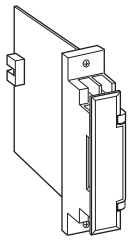
• Converts a DC input into a standard process signal using analog circuit

• DC isolation between inputs and outputs

• Module can be retracted without removing wiring for an insulation test

Typical Applications

• Isolation between control room and field instrumentation



MODEL: 18KVS-[1]6[2]-R

ORDERING INFORMATION

• Code number: 18KVS-[1]6[2]-R

Specify a code from below for each of [1] and [2].
(e.g. 18KVS-166-R)

• Special input range (For code 0)

[1] INPUT

Current

A: 4 – 20 mA DC (Input resistance 250 Ω)
D: 0 – 20 mA DC (Input resistance 50 Ω)
G: 0 – 1 mA DC (Input resistance 1000 Ω)
H: 10 – 50 mA DC (Input resistance 100 Ω)

Voltage

1: 0 – 10 mV DC (Input resistance 10 kΩ min.)
2: 0 – 100 mV DC (Input resistance 100 kΩ min.)
3: 0 – 1 V DC (Input resistance 1 MΩ min.)
4: 0 – 10 V DC (Input resistance 1 MΩ min.)
5: 0 – 5 V DC (Input resistance 1 MΩ min.)
6: 1 – 5 V DC (Input resistance 1 MΩ min.)
0: Specify voltage (See INPUT SPECIFICATIONS)

OUTPUT 1

Voltage

6: 1 – 5 V DC (Load resistance 2000 Ω min.)

[2] OUTPUT 2

Current

A: 4 – 20 mA DC (Load resistance 600 Ω max.)

Voltage

6: 1 – 5 V DC (Load resistance 2000 Ω min.)

POWER INPUT

DC Power

R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

GENERAL SPECIFICATIONS

Construction: Rack-mounted; terminal access via screw terminals on the front and connector on the rear; terminal cover provided

Connection

Input: M3.5 screw terminals (torque 0.8 N·m) and connector

Output 1: Connector

Output 2: M3.5 screw terminals (torque 0.8 N·m) and connector

Power input: Supplied from connector

Screw terminal: Nickel-plated steel

Isolation: Input to output 1 to output 2 to power

Overrange output: Approx. -10 to +120 % at 1 – 5 V

Zero adjustment: -5 to +5 % (front)

Span adjustment: 95 to 105 % (front)

INPUT SPECIFICATIONS

■ DC Current: Input resistor incorporated

■ DC Voltage: 0 – 50 V DC

Minimum span: 3 mV

Offset: Max. 1.5 times span

Input Resistance

Span 3 – 10 mV : ≥ 10 kΩ
Span 10 – 100 mV : ≥ 10 kΩ
Span 0.1 – 1 V : ≥ 100 kΩ
Span ≥ 1 V : ≥ 1 MΩ

OUTPUT SPECIFICATIONS

With the input voltage code 3, 4, 5, 6 and current, the output goes below 0 % when the input is open.

INSTALLATION

Current consumption:

Approx. 35 mA with voltage output
Approx. 65 mA with current output

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

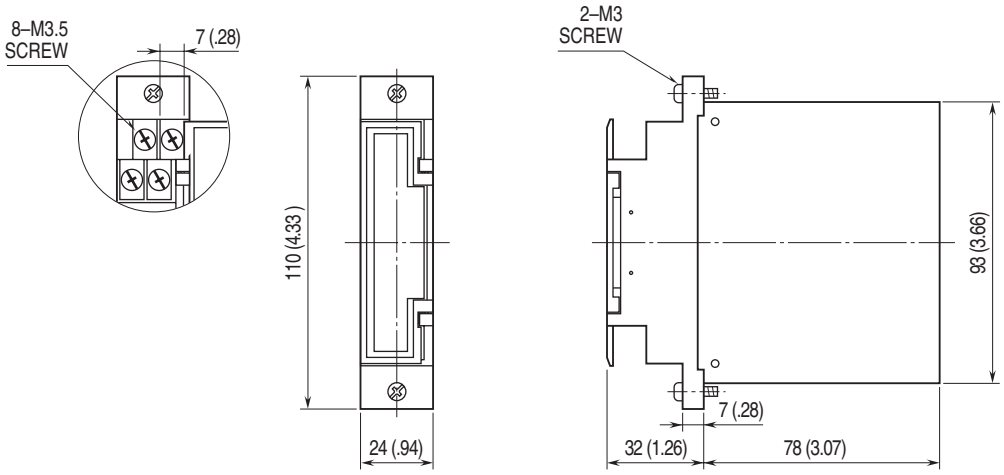
Mounting: Standard Rack 18KBXx

Weight: 150 g (0.33 lb)

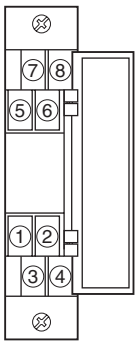
PERFORMANCE in percentage of span

Accuracy: ±0.1 %
Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)
Response time: ≤ 0.5 sec. (0 – 90 %)
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 500 V AC @ 1 minute (input to output 1 to output 2 to power to ground)

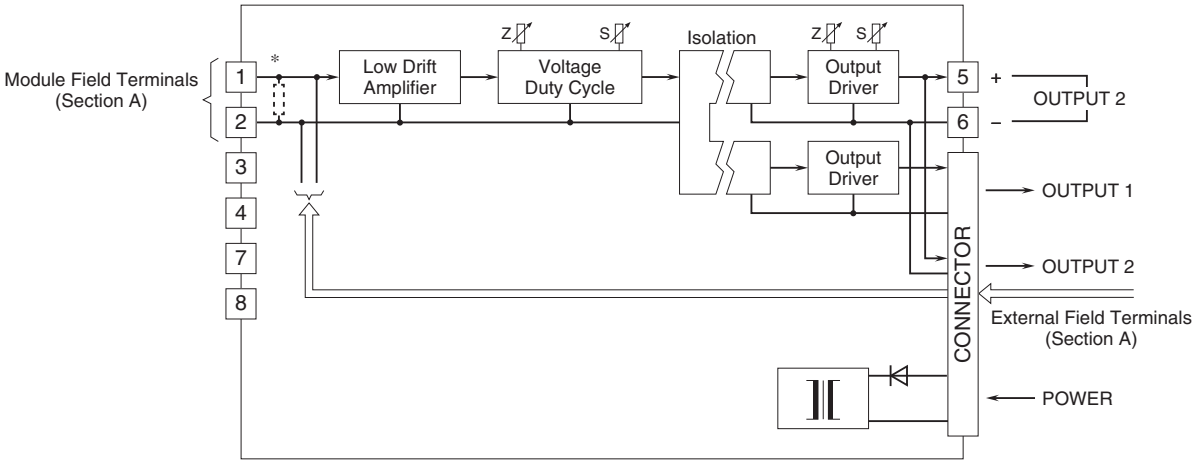
EXTERNAL DIMENSIONS unit: mm (inch)



TERMINAL ASSIGNMENTS

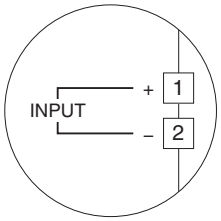


SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



* Input shunt resistor incorporated for current input.
Note 1: Use either of module or external field terminals.
Note 2: For OUTPUT 2 with current output, use either of terminals on the front or connector on the rear.

Section A. Field Terminals



⚠ Specifications are subject to change without notice.